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20. DISTRIBUTION OF FRESHWATER FISHES IN THE UPPALA RIVER, KASARGOD DISTRICT, KERALA

Distribution of freshwater fish fauna of Northern Kerala, north of Palghat Gap, was studied by various workers in the past (Rajan 1955, Mukerji 1931, Remadevi and Indra 1986 and Easa and Shaji 1997). However, there was no authentic record of the fish fauna of the rivers flowing through Kasargod dist, Kerala till the recent study conducted by Biju *et al.* (1999) in the Mancheswaram river, Kasargod district.

The Uppala river was surveyed by the authors in November, 1997. This river originates from the Veerakamba hills in Karnataka State at an altitude of 150 m above msl, it flows southwards about 7 km, then west about 13 km through Karnataka State. The river then flows 6 km through the Karnataka-Kerala border, enters Kasargod district, and flows in a south-west direction. After deviating in various directions the river discharges into the backwaters near Uppala, bordering the Arabian Sea. Mancheswaram river joins the same backwaters at the right bank. This river has a length of 50 km and a catchment area of 250 sq. km of which 174 sq. km belong to Karnataka State. The area under Karnataka State was also surveyed so as to have a complete picture of the distribution of fishes.

Upper parts of this river dry up within a month after the end of the southwest monsoon, so that all the fishes in this river migrate to the lower reaches. The main substratum of the river has sand and pebbles in the upper parts, while in the lower regions the bottom is muddy or sandy. Collections were made by using cast net, gill net and scoop net of varying mesh size. The list of species collected from the river is given below.

Family - Anguillidae

1. *Anguilla bengalensis bengalensis* (Gray)

Family - Cyprinidae

Subfamily - Cyprininae

2. *Puntius amphibius* (Val.)
3. *P. melanampyx* Day
4. *P. filamentosus* (Val.)
5. *P. vittatus* Day

Subfamily - Rasborinae

6. *Danio aequipinnatus* (McClelland)
7. *D. malabaricus* (Jerdon)

8. *Parluciosoma daniconius* (Ham. Buch.)

Subfamily - Garrinae

9. *Garra mullya* (Sykes)

Family - Bagridae

10. *Mystus gulio* (Ham.-Buch.)
11. *M. armatus* (Day)
12. *M. oculatus* (Val.)

Family - Belontiidae

13. *Xenentodon cancila* (Ham.-Buch.)

Family - Aplocheilidae

14. *Aplocheilus lineatus* (Val.)

Family - Syngnathidae

15. *Microphis cuncalus* (Ham.-Buch.)

Family - Ambassidae

16. *Ambassis miops* Gunther
17. *Parambassis thomassi* (Day)

Family - Teraponidae

18. *Terapon jarbua* (Forsk.)

Family - Gerreidae

19. *Gerres lucidus* (Cuv.)

Family - Cichlidae

20. *Etoplus maculatus* (Bloch)
21. *E. suratensis* (Bloch)
22. *Oreochromis mossambica* (Peters)

Family - Mugilidae

23. *Mugil cephalus* Linn.

Family - Gobidae

24. *Glossogobius giuris* (Ham.-Buch.)

Family - Belontiidae

Subfamily - Macropodinae

25. *Macropodus cupanus* (Val.)

Most of the listed species have a wide

distribution throughout Kerala. *Puntius amphibius*, *Parluciosoma daniconius*, *Danio malabaricus*, *Aplocheilus lineatus* and *Glossogobius giuris* were the most abundant and uniformly distributed fishes in this river. Because of the tidal influence existing at the river mouths and as far as 2-5 km away from the sea coast, marine fishes were also found in this river. *Therapon jarbua*, *Gerres lucidus*, *Ambassis miops*, *Mugil cephalus*, and *Microphis cuncalus* were the marine species entering the inland waters. *Mystus gulio* is also a migratory species.

The fish fauna of this river shows a distribution similar to that of Mancheswaram river, except five additions (Biju *et al.*, 1999). This may be due to its connection to the Mancheswaram river through the backwaters. Freshwater fish diversity was much less in this river, probably because of less habitat variety. The sand and mud dominated areas are the principal habitat types. Hence fishes with special adaptations are absent, except *Garra mullya*. The river mouth and areas near to river mouths had abundant fish fauna, marine and migratory species being more numerous here. The major fishery in Kasargod district is contributed by marine fishes.

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